REMARKS

I. ANTICIPATION REJECTIONS

A. Nambu

Claim 16 stands rejected as anticipated under 35 U.S.C. 102 (b) by Nambu (US '844).

Claim 16 has been canceled. No new claim has been added or no amended claim is on file, which has the same or similar scope as canceled claim 16.

For the foregoing reasons the rejection of claim 16 as anticipated by Nambu (US '844) has been obviated.

B. Grollier

Claim 16 stands rejected as anticipated under 35 U.S.C. 102 (b) by Grollier, et al (US '273).

Claim 16 has been canceled. No new claim has been added or no amended claim is on file, which has the same or similar scope as canceled claim 16.

For the foregoing reasons the rejection of claim 16 as anticipated by Grollier, et al (US '273) has been obviated.

II. OBVIOUSNESS-TYPE DOUBLE PATENTING REJECTIONS

Claim 16 stands rejected on the grounds of obviousness-type double patenting (ODP) over

claim 1 and 9 of US 6,156,298, in view of Bolich, et al (US '115);

claims 1 and 5 of US 6,475,475, in view of Bolich, et al (US '115);

claims 1 and 7 of US 6,383,477, in view of Bolich, et al (US '115);

claims 1 to 11 of US 6,589,510;

claims 1 to 9 of US 6,328,950;

claims 1 to 14 of co-pending application Ser. No.: 10/435,953;

claims 1 and 13 of US 4,976,952; or

claims 1 and 7 of US Patent 4,931,271;

Since claim 16 has been canceled, all the foregoing double patenting rejections have been obviated.

III. OBVIOUSNESS REJECTION

Claims 1 to 16 were rejected under 35 U.S.C. 103 (a) over Schehlmann, et al, in view of Bolich Jr, et al.

Claim 16 has been canceled, obviating its rejection on these grounds.

A. ARGUMENTS TO OVERCOME THE CASE OF *PRIMA FACIE* OBVIOUSNESS OF CLAIMS 1 TO 15

With respect to the case of *prima facie* obviousness of claims 1 to 15 no sufficient motivation for one of ordinary skill in formulating aerosol foam compositions exists in the prior art to make the modifications of the subject matter of the Schehlmann, et al, to obtain subject matter of the claimed invention based on the disclosures in Bolich Jr, et al, or any other prior art reference.

Independent claim 1 claims an aerosol foam product including a foamable composition and a pressure-resistant container for containing the composition and a propellant for dispensing the foamed composition.

Table 2 of Schehlmann, et al, in column 11 of US '394 includes comparisons of the pump foam of example 8, other comparative pump foams, and the aerosol foam of example 11. Examples 8 and 11 are described on page 7 of the Office Action. The citation of the Federal Court decision on page 12 and the discussion in the paragraph on pages 12 to 13 of the Office Action have been noted.

However the reasoning on pages 12 to 13 of the Office Action ignores an important difference between the properties of the comparative example 11 and example 8. The "ease of distribution" of the pump foam (example 8) is "very good", whereas the "ease of distribution" of the aerosol foam is only "moderate". Although this is only a single difference among many other properties that are the same it is nonetheless significant. Column 13, lines 19 to 21, of Schehlmann, et al, explain the

meaning of "moderate". It means that the foam produced by the aerosol is very firm and remains stable even after contact with the hair. This is undesirable because it makes the composition comparatively difficult to incorporate in the hair.

Thus Schehlmann, et al, clearly teach away from using the tested polymer combination of MAA/EA copolymer and Polyquaternium-46 in aerosol compositions, which are sprayed with the aid of a propellant. One skilled in the art would instead make a pump spray composition with these ingredients.

According to the Office Action one skilled in the art would find motivation to replace the Polyquaternium-46 of comparative example 11 of Schehlmann, et al, with the Polyquaternium-7 based on the teaching of the suitability of both these cationic polymers in column 21 of Bolich Jr, et al.

First for the sake of argument it is assumed here that this suitability is correctly taught be Bolich Jr, et al, and is correct. One skilled in the art would still not modify the composition of example 11 of Schehlmann, et al, in the suggested manner by replacing Polyquaternium-46 with Polyquaternium-7. Instead one skilled in the art would avoid the use of aerosol propellants, because of the resulting poorer distributability property. The difference in the ease of distribution of the foam is significant and would be given considerable weight by one skilled in the art. If one assumes that the alleged substitutability based on the disclosures in column 21 of Bolich Jr, et al, is correct, then one skilled in the art would modify the non-aerosol composition of example 8 by replacing Polyquaternium-46 with Polyquaternium-7.

In other words, assuming the that equivalency of the cationic polymers of column 21 of Bolich Jr, et al, is correct, the combination of Bolich Jr, et al, with

Schehlmann, et al, would result in a pump spray composition including Polyquaternium-7 and the MAA/EA copolymer, but not an aerosol composition.

A person of ordinary skill in the art always wants to make products with the best properties that are easy to use, not products which are difficult to use, i.e. difficult to distribute on the hair.

It is well established that a reference that contains teaching away from the claimed invention should not be used alone or combined with other references to reject a claimed invention under 35 U.S.C. 103 (a). See for example M.P.E.P. 2145. X. Also the Federal Circuit Court of Appeals has said:

> "In determining whether such a suggestion [of obviousness] can fairly be gleaned from the prior art...It is indeed pertinent that these references teach against the present invention. Evidence that supports, rather than negates, patentability must be fairly considered." ***In re Dow Chemical Co.,*** 837 F.2nd 469,473, 5 U.S.P.Q.2d 1529, 1532 (Fed. Cir. 1988)

Schehlmann, et al, also clearly teach that the comparative aerosol composition 11 in Table 2 in column 11 is comparatively difficult to distribute on the hair than the corresponding pump spray composition with the same ingredients. Thus Schehlmann, et al, lead one skilled in the art away from the aerosol product claimed in applicants' claim 1.

Second, to contend that a composition that contains the MAA/EA copolymer and Polyquaternium-7 is obvious from a composition that contains the MAA/EA copolymer and Polyquaternium-46 ignores important differences in these Polyquaternium polymers. The "polyquaternium" polymers are basically cationic

polymers, but their structure and properties can differ greatly. Some have considerably more conditioning effect, while others have properties that make them good for setting or fixing hair.

In the present situation the chemical structure of Polyquaternium-46 is entirely different and would not be considered *prima facie* obvious from that of Polyquaternium-7. Only the INCI names are similar in that they contain the term "Polyquaternium". This becomes apparent from the systematic chemical names of these polymers, which specify their chemical structure. The systematic name for Polyquaternium-46 is "copolymer of vinylcaprolactam/vinylpyrrolidone/3-methyl-1-vinylimidazolium methyl sulfate"(US '115, col. 10, lns. 63-65). The systematic name for Polyquaternium-7 is "dimethyldiallyl ammonium chloride/acrylamide copolymer".

Clearly Polyquaternium-46 has an entirely different chemical structure from Polyquaternium-7. The only common element is that they are both cationic polymers. Since function and properties depend on structure, one would conclude that the properties and function as well as the structure of these two cationic polymeric compounds are **not** *prima facie* obvious from each other.

If Polyquaternium-7 is **not** *prima facie* obvious from Polyquaternium-46, then it would seem that a composition containing a first compound and Polyquaternium-7 should not be considered obvious from a composition containing the first compound and Polyquaternium-46. The cationic polymers are too different in their structure and properties.

Basically the reasoning in the Office Action is an "obvious-to-try" argument. "Obvious-to-try" arguments have been consistently rejected in various judicial

decisions, because of the lack of any suggestion in the references to pick the particular species and to include it in the inventive composition. For example, the Federal Circuit Court of Appeals has said:

> "Obvious to experiment" is not a proper standard for obviousness." ***In re Dow Chemical Co.***, 5 U.S.P.Q. 2nd 1529 (Fed. Cir. 1988).

There is **no hint or suggestion** in either Bolich Jr, et al, or Scheehlmann, et al, to pick Polyquaternium-7 from the list of cationic polymers in column 21 of Bolich Jr and to replace Polyquaternium-46 in example 11 of Schehlmann, et al, with Polyquaternium-7. There is no way to predict that this replacement will produce aerosol compositions with improved hair treatment properties. Predictability is lacking here, but would be required to support a conclusion of obviousness based on the prior art references, since an explicit suggestion of these modifications is lacking.

In fact, Bolich Jr, et al, lead one skilled in the art away from selecting Polyquaternium-7 because the preferred cationic polymers recited in column 21, lines 54 to 57, do **not** include Polyquaternium-7.

Furthermore, the list of cationic polymers in column 21 of Bolich, Jr, et al, is not exhaustive. The disclosure in column 21 clearly suggests that many other cationic polymers would also be suitable.

Basically the problem with the reasoning in the Office Action is that neither reference guides one skilled in the art to the Polyquaternium-7 or any other dialkyldiallyl ammonium chloride/acrylamide. How then is claim 1 or claim 15 prima facie obvious from these two prior art references? There is **no suggestion** that the stated object of the present invention on page 3 of applicants' specification can be

attained by a composition comprising a dialkyldiallyl ammonium chloride/acrylamide copolymer and the other copolymer according to claim 1.

It is well established by many U. S. Court decisions that to reject a claimed invention under 35 U.S.C. 103 there must be some hint or suggestion in the prior art of the modifications of the disclosure in a prior art reference or references used to reject the claimed invention, which are necessary to arrive at the claimed invention. For example, the Court of Appeals for the Federal Circuit has said:

> "Rather, to establish obviousness based on a combination of elements disclosed in the prior art, there **must be some motivation, suggestion or teaching of the desirability of making the specific combination** that was made by the applicant...Even when obviousness is based on as single reference there must be a showing of a suggestion of motivation to modify the teachings of that reference.." ***In re Kotzab***, 55 U.S.P.Q. 2nd 1313 (Fed. Cir. 2000). See also M.P.E.P. 2141 Bold face emphasis ours.

Neither cited prior art reference suggests the desirability of an aerosol composition that contains a combination of a dialkyldiallyl ammonium chloride/acrylamide copolymer and the other copolymer according to claim 1. Thus Bolich Jr, et al, and Schehlmann, et al, do not contain sufficient disclosures to establish a case of *prima facie* obviousness of applicants' claims 1 to 15.

Finally, applicants have provided comparative evidence on pages 25 to 29 of their originally filed specification that shows that the alleged substitutability of Polyquaternium-46 with Polyquaternium-7 is incorrect or at least not applicable to

their compositions, because their compositions formulated with Polyquaternium-7 instead of Polyquaternium-46 have unexpectedly better hair treatment properties.

The observed properties of hair treated with the composition 1A of the invention and the comparative aerosol foam compositions of the prior art on page 28 are significant, because these results clearly show that the basic premise regarding the teaching in the prior art (Bolich Jr) of the equivalence of the Polyquaternium-46 and Polyquaternium-7 is not correct or at least not applicable to the aerosol compositions according to the present invention.

The teaching in column 21, lines 30 to 57, of Bolich, Jr, et al, is alleged to mean that the various cationic polymers are equally suitable in the compositions of Bolich Jr, et al. The listed cationic polymers in column 21 do include Polyquaternium-4; Polyquaternium-10; Polyquaternium-11, Polyquaternium-16; Polyquaternium-46; chitosan PCA; and Polyquaternium-7. However applicants' comparative experimental results on pages 28 and 29 of the originally filed specification clearly contradict any teaching that compositions with these various cationic polymers are equally suitable. When Polyquaternium-7 in the foamable compositions of the invention is replaced by Polyquaternium-4 or Polyquaternium-16, the hair styling properties were much poorer than those of the invention. However according to the statement relied on in the Office Action, which appears in Bolich Jr, et al, Polyquaternium-4 and Polyquaternium-16 are as suitable as Polyquaternium-46. Thus on the basis of the same suitability if the Polyquaternium-7 in exemplary composition 1A were to be replaced by Polyqautemium-46, the resulting compositions would also have inferior

properties (because the tested compositions of Table 2 on page 28 of applicants' specification show that if Polyquaternium-7 in example 1A is replaced by Polyquaternium-4 or Polyquaternium-16 the treated hair has inferior properties). In other words, the combination of the MAA/EA copolymer and Polyquaternium-7 produces unexpectedly better treated hair properties than the closest prior art combination of MAA/EA copolymer with the other cationic polymers of Bolich Jr, et al.

For the foregoing reasons it is respectfully submitted that product and aerosol foam composition of claims 1 to 15 are not *prima facie* obvious from a combination of Schehlmann, et al, in view of Bolich, et al.

B. INDEPENDENT CLAIM 15

Attention is called to the more limited independent claim 15, which essentially claims a product including exemplary composition 1A listed in Table 1 on page 26 of applicants' originally claimed specification. Furthermore the compositions of the product of claim 15 are limited to the two copolymers A and B, MERQUAT® 550 and LUVIFLEX® SOFT, which are included in exemplary composition 1A. The ratio of these polymers in the exemplary composition 1A falls within the range for the ratio in claim 15. The solvent of claim 15 is water, C_2-C_3 or a mixture alcohol, while the solvent of exemplary composition 1A is ethanol/water.

The exemplary composition 1A of the invention (according to claim 15) differs from the compositions 1B and 1C that are not of the invention and that are closer to the invention (claim 15) than any exemplary compositions in Schehlmann, et al, and Bolich Jr, et al, only by the amounts and the ratio of the two copolymers A and B, MERQUAT® 550 and LUVIFLEX® SOFT.

However the results on page 27 show that hair that is treated by spraying the exemplary composition of 1A onto the hair with the propane/butane propellant according to the last line on page 25 of applicants' originally filed specification had good moist combability, good styling properties, beautiful luster, a smooth feel, and other desirable properties, while the hair of the comparative compositions 1B and 1C, which had ratios and amounts outside the claimed ranges were generally poorer, specifically slimy and greasy (1B) and had poor combability, little elasticity, and little definition (1C).

Thus the product according to claim 15 above provides unexpectedly better hair treatment properties than compositions that are almost the same except for the amounts and the ratio of the amounts of MERQUAT® 550 and LUVIFLEX® SOFT are outside the values of the claimed invention.

The results for the comparative foamable compositions on page 28 are even more significant because these results clearly show that the basic premise regarding the teaching in the prior art (Bolich Jr) of the equivalence of the Polyquaternium-46 of comparative example 11 and example 8 of Schehlmann, et al, with Polyquaternium-7 is not valid for the compositions according to the invention.

Bolich, Jr, et al, do teach that various cationic polymers are equivalent to the extent that they are suitable for use in their compositions (column 21, lines 30 to 57). These cationic polymers do include Polyquaternium-4; Polyquaternium-10; Polyquaternium-11, Polyquaternium-16; chitosan PCA; and Polyquaternium-7. However applicants' comparative experimental results on page 28 of the originally filed specification clearly show that when Polyquaternium-7 in the foamable compositions of the invention is replaced by Polyquaternium-4 or Polyquaternium-16, the hair styling properties were much poorer than those of the invention. However according to the statement relied on in the Office Action, which appears in Bolich Jr, et al, Polyquaternium-4 and Polyquaternium-16 are 'equivalent' to or replaceable with Polyquaternium-46.

The results in Table II show that hair treatment compositions including the respective cationic polymers designated as Polyquaternium in column 21 by Bolich, et al, do **not** produce equivalent results when applied the hair by a propellant. Polyquaternium-7 provides unexpectedly better results than compositions containing other polyquaternium polymers of column 21 of Bolich Jr, et al.

Also note that the scope of claim 15 is limited to compositions that only include Polyquaternium-7 and none of the other polyquaternium polymers mentioned in column 21 of Bolich, et al.

According to MPEP 716.01 (a) objective evidence of nonobviousness should always be carefully considered. Thus the comparative evidence in the examples on pages 25 to 29 of applicants' originally filed specification should be

carefully considered in relation to the disclosures in the cited prior art Schehlmann, et al, and Bolich, Jr, et al.

According to MPEP 716.02 (a) the evidence should show unexpected results in order to convincingly overturn a rejection under 35 U.S.C. 103 (a). In the case of the present application column 21, lines 30 to 57, do more or less teach the equivalency of hair treatment compositions that contain the various different polyquaternium polymers including Polyquaternium-7, Polyquaternium-4, and Polyquaternium-16. Thus it is surprising and unexpected that these hair treatment compositions should provide treated hair with so much better hair treatment properties when either Polyquaternium-4 or Polyquaternium-16 is replaced by Polyquaternium-7.

With regard to MPEP 716.02 (d) there can be no complaints regarding excessive scope of claim 15, because claim 15 is limited to only the two copolymers A and B, MERQUAT® 550 and LUVIFLEX® SOFT. Also the compositions that are not of the invention and compared with exemplary composition 1A of the invention are clearly closer to the claimed invention of claim 15 than any of the prior art exemplary compositions in Schehlmann, et al.

For the foregoing reasons, withdrawal of the rejection of claims 1 to 15 as obvious under 35 U.S.C. 103 (a) over Schehlmann, et al, in view of Bolich, Jr, et al, is respectfully requested.

IV. INFORMATION DISCLOSURE STATEMENT

The statement regarding the two NPL documents that were not considered on page 2 of the Office Action has been noted. However it is our understanding that these documents are not patents, but in fact portions of Handbooks and Encyclopedias that provide general background information regarding cosmetics. The two NPL documents referred to in the Office Action appear to be portions of "Handbook of Cosmetics and Fragrances" by H. Janistyn and "Grundlagen und Rezepturen der Kosmetika" by K. Schrader. Clarification is respectfully requested.

An English translation of DE 32 17 059 A1 is available, because this reference is in the same patent family as US 4,761,273 A, Grollier, et al, which was used to reject claim 16 as anticipated. US 4,761,273 A contains the same subject matter as DE 32 17 059 A1. For that reason applicants respectfully request the return of another copy of the ids listing DE 32 17 059 A1, which is initialed to show that its subject matter has been considered.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal

discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,

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